

WHAT IS CLAIMED IS:

1 1. A method for coordinating charging information in a communications network,
2 the method comprising:
3 establishing a communication channel;
4 associating a charging identification with said communication channel; and
5 sending said charging identification from a ^{mobile station} first network element in the transport
6 layer to a second network element in the application layer.

1 2. The method of claim 1, wherein said second network element adds said
2 charging identification to charging information which said second network element
3 collects.

1 3. The method of claim 1, wherein said first network element sends an address
2 of a network element together with said charging identification to said second network
3 element.

1 4. The method of claim 3, wherein said second network element adds said
2 address of a network element to charging information which said second network
3 element collects.

1 5. The method of claim 1 or 3, wherein said first network element sends security
2 information together with said charging identification to said second network element.

1 6. The method of claim 5, wherein said second network element verifies said
2 charging identification against said security information.

1 7. The method of claim 1, wherein said communication channel is a Packet Data
2 Protocol (PDP) context.

1 8. The method of claim 1, wherein said charging identification is a GGSN
2 allocated Charging Id.

1 9. The method of claim 1, wherein said first network element is a Mobile Station
2 (MS).

1 10. The method of claim 1, wherein said first network element is a Serving
2 GPRS Support Node (SGSN).

1 11. The method of claim 1, wherein said first network element is a Gateway
2 GPRS Support Node (GGSN).

1 12. The method of claim 1, wherein said second network element is a Call State
2 Control Function (CSCF).

1 13. The method of claim 9 or 12, wherein an SGSN sends said address of a
2 network element to said first network element.

1 14. The method of claim 9, 10, 11 or 12, wherein said address of a network
2 element is an address of a GGSN.

1 15. The method of claim 1, wherein said transport layer is a GPRS/UMTS.

1 16. The method of claim 1, wherein said transport layer is a Packet Switched
2 Core Network domain.

1 17. The method of claim 1, wherein said application layer is a IP Multimedia Core
2 Network domain.

1 18. The method of claim 1, wherein said communication network is a packet
2 switched wireless network.

1 19. The method of claim 1, wherein
2 sending said charging identification is performed autonomously.

1 20. The method of claim 1, wherein
2 sending said charging identification is performed based on a request from said
3 second network element.

1 21. The method of claim 1, wherein said second network element sends said
2 charging identification towards an endpoint of a communication.

1 22. The method of claim 21, wherein said second network element sends security
2 information together with said charging identification toward said endpoint of a
3 communication.

1 23. The method of claim 21, wherein said second network element sends an
2 address of a network element together with said charging identification to said endpoint of a
3 communication.

1 24. The method of claim 9, wherein said second network element adds an address
2 of said first network element to charging information which said second network element
3 collects.

1 25. An apparatus for coordinating charging information in a communications
2 network, the apparatus comprising:
3 a charging identification associated with a communications channel; and
4 a first network element sending said charging identification in the transport layer to a
5 second network element in the application layer.

1 26. The apparatus of claim 25, wherein said communication channel is a Packet
2 Data Protocol (PDP) context.

1 27. The apparatus of claim 25, wherein said charging identification is a GGSN
2 allocated Charging Id.

1 28. The apparatus of claim 25, wherein said first network element is a Mobile Station
2 (MS).

1 29. The apparatus of claim 25, wherein said first network element is a Serving GPRS
2 Support Node (SGSN).

1 30. The apparatus of claim 25, wherein said first network element is a Gateway
2 GPRS Support Node (GGSN).

1 31. The apparatus of claim 25, wherein said second network element is a Call State
2 Control Function (CSCF).